

REMARKS

After entry of this amendment, claims 1-23, 25, and 30-33 are pending, of which claims 4, 9-23, 25 and 32-33 are withdrawn. Claims have been amended without prejudice or disclaimer and find support *inter alia* in the original claims. Claim 1 finds further support in the original claim 15 and in the specification at page 15, lines 16-17, and at page 36, lines 17-19. Claims 5-9 find further support in the specification at page 11, line 20. No new matter has been added.

Withdrawn method claims have also been amended to require all the limitations of the product claims. Support is found *inter alia* in the original claims. No new matter has been added. In the event that the product claim is found allowable, rejoinder of the withdrawn method claims is respectfully requested. MPEP § 821.04(b).

Abstract

The Examiner objects to the abstract for containing legal phraseology.

In response, Applicants respectfully submit herewith an amended abstract in a separate sheet pursuant to 37 C.F.R. § 1.72. The amended abstract finds support in the abstract as originally filed. No new matter has been added.

Claim Rejections – 35 USC § 112, First Paragraph

Claims 5-8 are rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing to comply with the written description requirement. The Examiner maintains the position that the claims 5-8 are directed to genomic DNA sequences which are allegedly not described in the specification. Office Action at page 3. Applicants respectfully disagree. However, to expedite prosecution, claims 5-8 and the withdrawn claim 9 have been amended without prejudice or disclaimer replace the recitation of “gene construct” with the recitation of “expression cassette.” As disclosed in the specification at page 11, line 20, the term “expression cassette” is used as a synonym of “gene construct.” Furthermore, expression cassettes comprising various acyl-CoA:lysophospholipid-acyltransferase (LPLAT) coding sequences and at least one promoter and one terminator are described in the specification, particularly in Example 4 at pages 52-60. For at least these reasons, it is submitted that claims 5-8 as amended overcome this rejection.

Reconsideration and withdrawal of the rejection is respectfully requested.

Claim Rejections – 35 USC § 112, Second Paragraph

Claims 1-3, 5-8 and 30-31 are rejected under 35 USC § 112, second paragraph, as being indefinite. The Examiner maintains the position that the recitation “converts C16, C18-, C20- or C22-fatty acids” is unclear as to what the “C16, C18-, C20- or C22-fatty acids” compounds are converted to. Applicants respectfully disagree. However, to expedite prosecution, claim 1 has been amended without prejudice or disclaimer to recite that the “C16, C18-, C20- or C22-fatty acids” are substrates of the LPLAT of the present invention as suggested by the Examiner. In light of the amendment, it is believed that the rejection is rendered moot.

Reconsideration and withdrawal of the rejection is respectfully requested.

Claim Rejection – 35 USC § 103(a)

Claims 1-3, 5-8 and 30-31 are rejected under 35 USC § 103(a) as being obvious over Suggs et al. (hereinafter “Suggs”), in view of GenBank accession No. Q22267. Applicants respectfully disagree and traverse the rejection.

The Examiner relies on Suggs for teaching the use of mixtures of chemically synthesized oligonucleotides as hybridization probes for the isolation of DNA sequences for any protein with a known amino acid sequence. The Examiner argues that, because the protein sequence of SEQ ID NO: 2 is known in the art (*i.e.* Q22267), it would have been obvious to one of ordinary skill in the art to use the method taught in Suggs to isolate the coding DNA sequence. The Examiner further contends that it would have been within the ordinary skill in the art to assemble various expression vectors and generate host cells containing the same. Office Action at page 7. Applicants respectfully disagree with the Examiner’s characterization of the references and conclusion of obviousness for the following reasons.

Suggs discloses isolation of a human β 2-microglobulin cDNA using synthetic oligonucleotides as hybridization probes. Suggs does not provide any further experimental evidence that the disclosed method would work with any other protein to isolate the corresponding cDNA. On the contrary, Suggs implies that it is unpredictable to use the disclosed method for isolating a cDNA simply based on the protein sequence. For instance, Suggs discloses that one of the probes, the β 2mI probe, that contains a sequence which differs from the cloned cDNA by only one single nucleotide failed to produce any specific hybridization in the

colony screening experiment. Suggs at page 6616, left Col, 1st paragraph. Similarly, even with a sequence that is perfectly complementary to the cloned cDNA, the β 2mIII probe also failed to produce any specific hybridization in the colony screening experiment. Suggs at page 6616, left Col, 3rd paragraph. Accordingly, one skilled in the art, reading Suggs, would not have a reasonable expectation that the method disclosed in Suggs would work to isolate a cDNA sequence from any known protein, as alleged by the Examiner, or that it would have isolated the nucleic acid of the present claims.

Citing *Ex parte Kubin*, 83 USPQ2d 1410 (B.P.A.I. 2007), the Examiner further concludes that the claimed nucleic acid is not the product of innovation, but of ordinary skill and common sense, because the amino acid sequence of the encoded polypeptide was known in the art. Office Action at page 8. Applicants respectfully submit that *Ex parte Kubin* is distinguishable and thus not applicable in the present case.

In *Ex parte Kubin*, the 103(a) issue as framed by the Board is as follows: would Applicants' claimed nucleotide sequence have been obvious to one of ordinary skill in the art, based on Valiante's disclosure of p38 and his express teachings how to isolate its cDNA by conventional techniques? *Ex parte Kubin*, 83 USPQ2d at 1412. In supporting its affirmative answer, the Board found, among other facts, that, (1) Valiante's p38 is the same protein as Applicants' NAIL; (2) Valiante expressly teaches through a prophetic example how to isolate the corresponding cDNA clone; (3) the role and importance of NAIL was well known in the art. *Id.*, at 1412-13. These findings provided a motivation to combine references in that case because one of ordinary skill in the art would have recognized the value of isolating NAIL cDNA and would have been motivated to do so.

In contrast to *Ex parte Kubin*, the cited references do not provide any significant motivation to obtain the claimed DNA and therefore the subject matter would not have been obvious. First, the GenBank accession No. Q22267 teaches only the amino acid sequence that is annotated as "putative 1-acyl-sn-glycerol-3-phosphate acyltransferase ac1-2 (1-AGP acyltransferase) (1-AGPAT) (Lysophosphatidic acid acyltransferase) (LPAAT)." The amino acid sequence of Q22267 was predicted as a result of the genomic sequencing project of the nematode *Caenorhabditis elegans*. The Q22267 reference itself does not indicate, expressly or implicitly, any importance or practical significance of this "putative" protein, the protein being

“putative” since the reference provides no indication that it is actually expressed. This is a dramatic distinction from *Ex parte Kubin*, where the reason to obtain the DNA was clear from the cited art.

Because one of ordinary skill in the art would not have been motivated to combine the cited references, and it is not clear from Suggs that success could have been expected, the present claims are not obvious. See *KSR International Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007) (holding that “there must be some articulated reasoning with some rational underpinning to support a legal conclusion of obviousness.”)

Reconsideration and withdrawal of this rejection is respectfully requested.

CONCLUSION

For at least the above reasons, Applicants respectfully request withdrawal of the rejections and allowance of the claims. If any outstanding issues remain, the Examiner is invited to telephone the undersigned at the number given below.

Applicants reserve all rights to pursue the non-elected claims and subject matter in one or more divisional applications.

Accompanying this response is a petition for a two-month extension of time to and including October 22, 2008, to respond to the Office Action mailed May 22, 2008 with the required fee. No further fees are believed due. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 12810-00119-US from which the undersigned is authorized to draw.

Respectfully submitted,

By /s/ Hui-Ju Wu
Hui-Ju Wu, Ph.D.

Registration No.: 57,209
CONNOLLY BOVE LODGE & HUTZ LLP
1007 North Orange Street
P. O. Box 2207
Wilmington, Delaware 19899-2207
(302) 658-9141
(302) 658-5614 (Fax)
Agent for Applicants

613932